

ABSTRACT

5 A method and a computer program for reducing jitter in IP packet transmission in a
Diffserv network having ingress and egress Border Routers and using premium service,
expedited forwarding and source route option, recognize incoming packets which have firm
jitter requirements. The program verifies if a recognized packet has an entry in the
forwarding cache for its IP destination address. If affirmative, the identified packet is sent
to the next hop. If not, the program checks to see if a route table entry exists for the specified
destination address. If affirmative, the route table entry is stored in the forwarding cache,
10 and the packet is sent on its way. Otherwise, the program uses special filters to extract and
select the shortest and fastest path to an egress border router to match the destination address;
a list of selected router addresses is inserted as part of a source route option. All intermediate
routers receiving a packet with the strict source route option set will forward the packet to
the first address in the strict source option list. Subsequent packets which follow after the
15 recognized packet and are bound to the same destination address will be sent in the same
path as the identified first packet with the source route option turned off.. The method
ensures reduced jitter for packets having firm jitter requirements in a network using either
static or dynamic routing. The invention also teaches a memory and an algorithm using the
method.

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